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NEW MEXICAN AND VENEZUELAN MILLIPEDS IN THE COLLECTION OF THE ILLINOIS STATE NATURAL HISTORY SURVEY

By Nell B. Causey
Fayetteville, Arkansas

The millipeds described here are in the permanent collection of the Illinois State Natural History Survey, Urbana, Illionis. I am indebted to Dr. M. W. Sanderson for the opportunity of studying the collection of Mr. W. L. Burger and to Mr. Ottys Sanders for the gift of his collection.

Order SPIROSTREPTOIDEA

Family SPIROSTREPTIDAE

Orthoporus unicus, n. sp.

Figs. 1-3

Near *O. striatus* Pocock 1908 in size, number of segments, and the form of the posterior lamina of the male gonopods; distinguished from that species by the absence of coarse, anastomosing ridges on the tergites and by the sharp, medial angle on the anterior lamina.

Male holotype.—In alcohol the predominating color is light gray brown with confluent dark brown and red brown annuli on the posterior half of the metazonites and the posterior margin of the collum; legs and antennae red brown. Ocelli in 6 curved rows of about 10, 10, 9, 8, 7, 5. Lappets on the ventral margin of the fifth and sixth articles of the third through the seventh legs.

Keels of collum as shown in figure 1. Exposed surfaces of tergites covered with small, anastomosing ridges and punctures in the grooves; only with magnification is the longitudinal direction of the ridges detected. Metazonites striate below pores; approaching the pores the striae are abbreviated, and a few very short striae are continued above the pores. Segmental sulci deep and complete; sulci slightly curved at level of pores, which are located about one-third of the distance from the sulci to the posterior margins. Pores begin on sixth segment. Caudal tergite short, with a slight transverse depression, the apex broadly obtuse, and exceeded by the anal valves. Medial margin of anal valves thick, not closely appressed. Anal tergite and valves finely punctuate. Anal scale with anterior margin widely convex and posterior margin broadly obtuse.

Posterior lamina of gonopods (Fig. 2, *p*) produced laterad into an unusually long, sharp cone. Telopodite (*t*) long, coiled, and without any processes; end expanded (Fig. 3) as usual for the genus, the small seminal spine (*s*) not projecting from the corolla (*c*).

Diameter 4.8 mm., 64 *segments*, 1 legless.

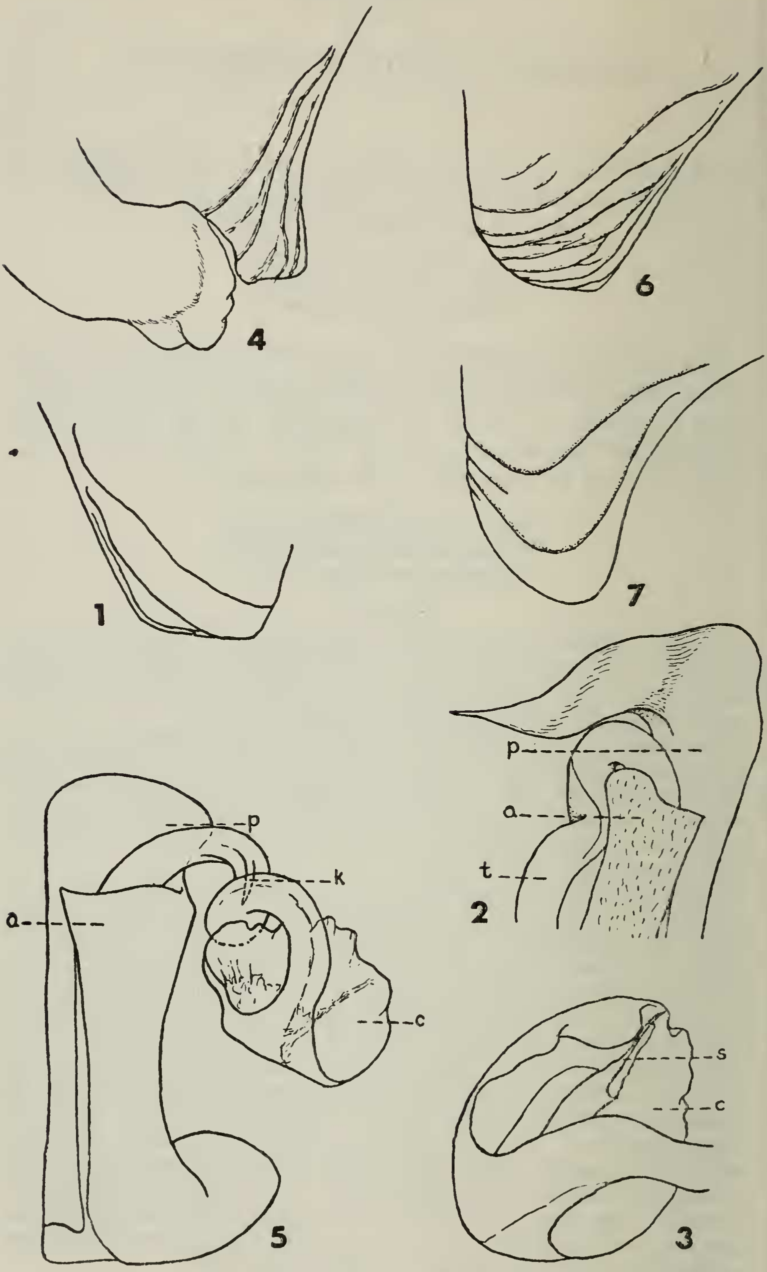


PLATE I

Type locality.—Two miles northwest of Rancho Nuevo, Chiapas, Mexico; Aug. 18, 1949; pine forest, W. L. Burger.

A *female* from the same locality has been tentatively assigned to this species. It differs from the male in being much larger, in having the pores almost in the middle of the metazonite, in having the longitudinal direction of the ridges more pronounced, and in being darker. As usual, the anterior angles of the keels of the collum are more obtuse than in the male. *Diameter* 7.3 mm., 60 *segments,* 1 legless. Another female, *diameter* 6.9 mm., 64 *segments,* was collected 13 miles south of La Trinitaria, Chiapas, Aug. 12, 1949.

Orthoporus spp.

Several undetermined females from 15 miles south of Pichualaco, 13 miles east of Las Rosa, and Ocozocoautla, all in Chiapas, represent at lease three other species.

Genus **CHAMBERLINEPTUS**, new

The gonopods resemble those of *Andineptus* Chamberlin 1941 in the absence of a lateral cone on the posterior lamina and in the presence of a corolla at the apex of the telopodite. Unlike *Andineptus,* there is no seminal spine projecting from the corolla, and there is a short spine at the knee of the telopodite. In the male, the ventral margins of the first three segments are thicker and longer than in related genera. Pores begin on sixth segment. Surface without conspicuous sculpture. Anal tergite shorter than valves.

Genotype.—*Chamberlineptus morechalensis,* n. sp.

Chamberlineptus morechalensis, n. sp.

Figs. 4-6

Male holotype.—In alcohol the color is brown with red brown annuli on the posterior margin of the metazonites; legs and antennae yellow brown. Head smooth and shining, with the usual sulcus on the vertex. Ocelli in 7 curved rows of about 13, 13, 12, 11, 10, 8, 7. Lappets on the ventral margin of the fifth and sixth articles of the third through the seventh legs.

Keels of collum produced in narrow, quadrate lobes; tergites of second and third segments also produced ventrad (Fig. 4), the second more than the third. Body surface shining, smooth; under magnification small punctures are observed evenly distributed on exposed surfaces. Segmental sulci complete but scarcely more conspicuous than the encircling striae of the prozonites; sulci very slightly curved at level of pores, which are a little nearer the sulci than the posterior margins. Metazonites with the usual horizontal striae below pores, a few very short ones approaching and above pores. Caudal tergite short, with a distinct transverse depression, the surface coriaceous between the depression and the apex, the apex broadly obtuse, and exceeded by the anal valves. Medial margin of anal valves elevated but not closely appressed or much thickened. Anal sternite wide and narrow, with both margins about equally convex.

An anterior view of the right gonopod is shown in figure 5.

Diameter 5.4 mm., *length* about 100 mm., 61 *segments,* 1 legless.

Female paratype. Closely resembles the male except that the shape of the keels of the collum (Fig. 6) is typical of the family and the second and third tergites are not produced ventrad. *Diameter* 7.2 mm., *length* about 120 mm., 58 *segments.*

Type locality.—Morechal, Territory of Delta-Amacuro, Venezuela; Aug. 6, 1950; W. L. Burger; 1 male; 7 females. The diameter of the females varies from 7.2 to 6.0 mm., in some the inferio-anterior angles of the collum are produced more, in others less, than in the one shown in figure 6.

Genus **VENEZUENEPTUS**, new

The gonopods resemble those of *Ellateptus* Chamberlin 1941 in the elaborate development of the posterior lamalla of the coxite. Unlike *Ellateptus,* there is a slight development of the tarsal region and a short process on the knee of the long, slender telopodite. Pores begin on sixth segment. Surface without conspicuous sculpture. Anal tergite shorter than valves.

Genotype. Venezueneptus liber, n. sp.

This genus also includes *V. geayi* (Brolemann 1898), which has been collected at Haut et Bas Sarare and at El Valle, near Caracas, Venezuela (Chamberlin 1941).

Venezueneptus liber, n. sp.

Figs. 7, 8

Distinguished from *V. geayi by* the absence of a well-marked, narrow, longitudinal, straw colored band on the dorsum. Minute differences in the gonopods between the two species may also be of specific importance.

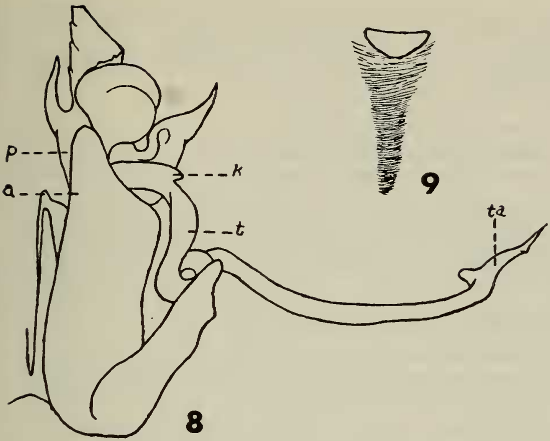
Male holotype.—In alcohol the prozonites are dark brown, the metazonites and margins of the anal valves are dark red brown, and the legs and antennae are light red brown. Head smooth and shining, with the usual sulcus on the vertex. Ocelli in 6 curved rows of about 9, 8, 8, 7, 4, 2. Lappets on the ventral margin of the fifth and sixth articles of the third through the seventh legs.

Keels of collum with two long striae as in *geayi,* but the anterior corner is more broadly rounded than in that species (Fig. 7); second and third tergite not produced ventrad. Body surface smooth, shining; under magnification metazonites and anal tergite finely and sparsely punctuate and rugose; anal valves, except for the smooth raised margins, coriaceous. Segmental sulci deep, complete, beginning on the second segment, and straight at level of pores. Pores about one-third the distance from the sulci to the posterior margins. The usual horizontal striae on the metazonites become very short approaching the pores, and a few are continued above the pores. Apex of caudal tergite obtusely angled, very thin, exceeded above and behind by anal valves. Margins of anal valves high, tightly appressed, moderately thickened. Both anterior and posterior margins of anal scale convex.

Gonopods, as shown in figure 8, strikingly similar to those illustrated by Brolemann for *geayi;* they differ in the minute serration on the margin of the apex of the posterior lamella, in the short, very blunt process on the knee of the telopodite, and the minute apical tooth on the tarsus of the telopodite. All of these characters might have been regarded by Brolemann as too small to be included in his figure.

Diameter 2.5 mm., *length* about 43 mm., 52 *segments,* 1 legless.

Female paratype. Closely resembles the male except that the shape of



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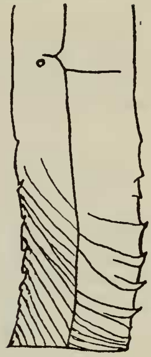

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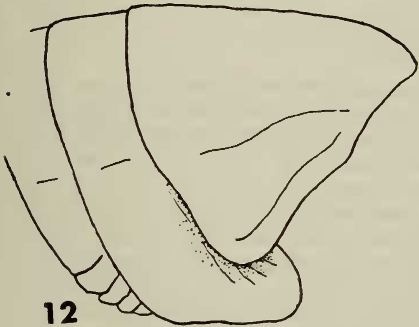

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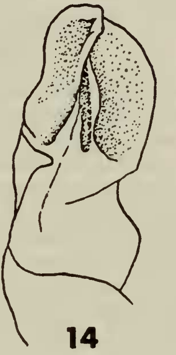

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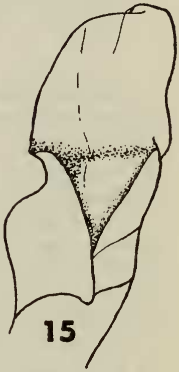

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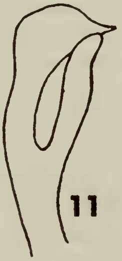

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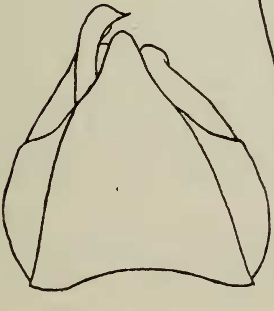

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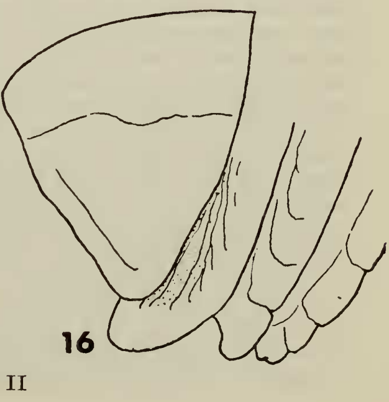

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PLATE II

the keels of the collum is as illustrated for the female of *geayi*. *Diameter* 2.7 mm., *length* about 45 mm., 49 *segments*, 1 legless.

Type locality.—Morechal, Territory of Delta-Amacuro, Venezuela; Aug. 6, 1950; W. L. Burger; 1 male, 1 female.

Order SPIROBOLOIDEA

Family RHINOCRICIDAE

Rhinocricus smithi Pocock

Rhinocricus smithi Pocock, 1908, Biol. Centr.-Amer., Diplop. p. 63.

El Soledad, Oaxaca, Mexico; Aug. 18, 1949; W. L. Burger; 1 male, diameter 11.2 mm., 54 segments; 1 female, diameter 12.6 mm., 54 segments.

Rhinocricus potosianus Chamberlin

Rhinocricus potosianus Chamberlin, 1941, 52:252-253, fig. 9.
Rhinocricus potosianus Chamberlin, 1943, Bull. U. Utah, Biol. Ser. 8(3): 20, figs. 26, 27.

Tamazunchale, San Luis Potosi, Mexico; July 10, 1937; Ottys Sanders; 1 male, 3 females, several larvae.

Rhinocricus dispar, n. sp.

Figs. 9-11

A small species with the anterior gonopods very near those of the widely distributed *R. monilicornis* (Porat 1876), as illustrated by Chamberlin (1950); also near *R. finitis* Chamberlin 1950, from which it is distinguished by its inconspicuous banding and differences in the proportions of the parts of the anterior gonopods.

Male holotype.—In alcohol the prozonites are dark brown and the metazonites, legs, antennae, borders of the collum, and apex of the caudal tergite are red brown. Antennae with numerous sensory cones. Eyes more than twice their width apart, the ocelli in 6 rows of 7 to 3. Cephalic sulcus slightly interrupted in the middle. Clypeal foveolae 2 + 2.

Collum broadly rounded at sides, the marginal sulcus reaching as high as the middle of the eye. Surface of tergites shining; under magnification it is seen to be finely coriaceous, with the metazonites slightly rougher than the prozonites. Segmental sulci distinctly impressed above; sulci bend sharply around behind pores, almost touching them. A distinct secondary sulcus crosses the dorsum in front of the primary one,, ending at level of pores. Horizontal striae of metazonites become irregularly shortened approaching the pores and are continued a little above them. Scobinae begin as small pits at about the ninth segment and end at about the thirty-seventh; in the middle of the body they are about four times their width apart and appear as in figure 9. Apex of caudal tergite rounded acute; from a dorsal view it just barely covers the valves. Margins of anal valves but slightly inflated. Anal scale three times as wide as long, the apex of the posterior margin obtuse. Coxae of third through seventh legs produced below in thick, triangular lobes, those on the third and fourth legs largest.

Anterior gonopods as shown in figure 10. Posterior gonopods (Figs. 10, 11) distinguished from those of *monilicornis* by the rounded apex of the seminal branch and the straight apex of the anterior branch.

Diameter 3.3 mm., 45 *segments*.

Type locality. Morechal, Territory of Delta-Amacuro, Venezuela; Aug. 6, 1950; 1 male; W. L. Burger.

Oxobolus magnificus, n. sp.

Figs. 12-15

A large species closely resembling several others in appearance; distinguished by the posterior gonopods, in which a longitudinal ridge on the anterior surface interrupts the apical margin.

Male holotype.—In alcohol the metazonites, borders and middle of collum, borders of anal valves, anal scale and labrum are olive yellow; prozonites are olive gray; legs and antennae are red orange. Head shining, almost without punctures, the medial longitudinal furrow interrupted in the middle; clypeal foveolae 5 + 4. Eyes subcircular, with about 23 ocelli in 5 rows. Collum and second tergite as shown in figure 12. Third and fourth tergites not produced into ventral lobes, as in *O. tardus*, although there are a few scallops below. On succeeding segments, except the last, the scallops give way to relatively small spinous points, which never extend as high as the pores (Fig. 13). Segmental sulci represented by light colored lines rather than by depressions on the dorsum. Surface of tergites shining, smooth; under magnification it is seen to be finely and evenly coriaceous. Apex of anal tergite thin, obtuse, closely appressed to anal valves and much surpassed by them. Mesial margins of anal valves moderately swollen, appressed. Posterior margin of anal scale almost straight except for the small angle as in *O. cinctus* Chamberlin 1922.

Coxae of legs 3, 4, and 5, produced ventrad into flattened, triangular lobes, the fifth largest. Coxae of seventh legs typically enlarged and without triangular lobes below. One or more articles of the third through the seventh legs flattened and thickened along the ventral margin.

Medial coxites of anterior gonopods a little longer and more attenuated than in *O. tardus;* inner curvature of telepodites with the typical, short setae. Posterior gonopods as shown in figures 14 and 15.

Diameter 13 mm., 44 *segments,* 1 legless.

Type locality.—Three miles northwest of Rancho Monserrate, Chiapas, Mexico; Aug. 3, 1949; W. L. Burger; 1 male.

Oxobolus tardus, n. sp.

Figs. 16-18

The smallest member of the genus, with the anterior gonopods similar to those of *O. stolli* (Pocock 1908), from which it is distinguished by the structure of the posterior gonopods and by the presence of small spinous points on the posterior margin of the tergites below the pores.

Male holotype.—In alcohol the metazonites, legs, and borders of the collum are light orange, and the prozonites and collum are gray. Vertex finely punctuate, labrum more coarsely so; medial longitudinal furrow of head complete; clypeal foveolae 3 + 3. Eyes subelliptical, with about 25 ocelli in 4 vertical rows. Antennae with four sensory cones. Anterior margin of collum (Fig. 16) bowed forward slightly at level of eye; from this level to the ventral angle a marginal sulcus makes a broad border; from the same level an indistinct, irregular, longitudinal line extends from the anterior margin to the posterior and then intermittently across the tergites to the first pore. Keels of second tergite not quadrate as in related species, but with the posterior margin broadly rounded. As usual, there is a depression above the margin of the keels of the second tergite for the reception of the ventral angles of the collum. The oblique and horizontal striae are continued on the posterior margin of the metazonites as a few gentle scallops on the anterior segments and on all succeeding segments except the last as small spinous points; the spinous points reach halfway or more but never above the pores. Well impressed segmental sulci begin on the third segment. Metazonites slightly raised above prozonites. Under magnification the surface of the tergites is seen to be finely punctuate and sparsely and irregularly longitudinally striate, with the metazonites more thickly covered than the prozonites. Pores in front of and usually touching the segmental sulci. Apex of caudal tergite swollen and extending as far back as the anal valves do. Margins of anal valves moderately swollen and tightly appressed, the ectal surfaces of the margins abruptly raised. Posterior margin of anal scale almost straight.

Coxae of legs 3 and 4 produced ventrad into thick, triangular lobes, with the fourth longer. Coxae of seventh legs typically enlarged and with small, triangular lobes below.

Anterior gonopods as in *O. stolli* except that the setae on the inner curvature of the telopodites are shorter and sparser. Posterior gonopods (Figs. 17, 18) with the apical surface smooth, while in *O. stolli* this area is roughened.

Diameter 5.7 mm., 40 *segments,* 1 legless.

Type locality.—17 miles southwest of Simojoval, Chiapas, Mexico; Aug. 18, 1949; W. L. Burger; 1 male.

Oxobolus spp.

Several females from 2 miles northwest of Rancho Nuevo, Chiapas; 17 miles southwest of Simojoval, Chiapas; and 17 miles south of Tamazulapan, Oaxaca, Mexico, represent at least three other species.

Order POLYDESMOIDEA

Family XYSTODESMIDAE

Rhysodesmus viabilis Chamberlin

Rhysodesmus viabilis Chamberlin, 1943, Bull. U. Utah, Biol. Ser. 8(3): 47-48, figs. 105, 106.

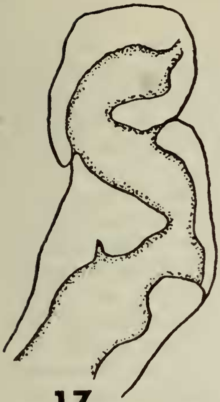
Valles, San Luis Potosi, Mexico; July 15, 1937; Ottys Sanders; 2 males. Coxae unspined; spines of sterna much sharper than in *R. sandersi* and directed cauded rather than slightly laterad.

Rhysodesmus tabascensis Pocock

Rhysodesmus tabascensis Pocock, 1909, Biol. Centr.-Amer., Diplop. p. 198, pl. 15, fig. 2.

Rhysodesmus tabascensis Pocock. Attems, 1938, Tierreich, Polydesmoidea II, p. 142.

Rancho Nuevo, Chiapas, Mexico; Aug. 10, 1949; W. L. Burger; 1 female, 10.2 mm. wide. The determination must be regarded as tentative until males have been described. Coxae unspined; sternites with large, blunt pegs adjacent to the coxae. In alcohol the dorsum is brown and the legs and entire keel areas are yellow.



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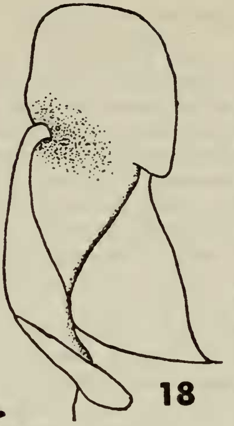

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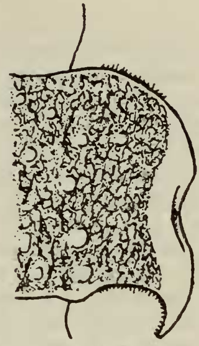

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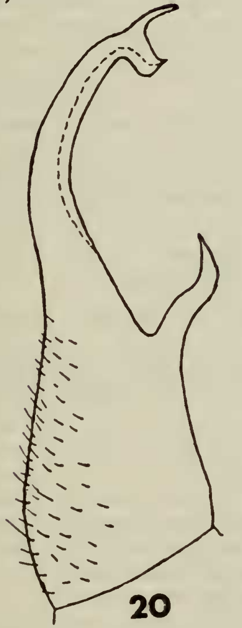

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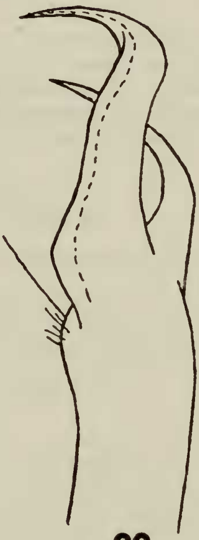

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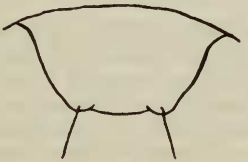

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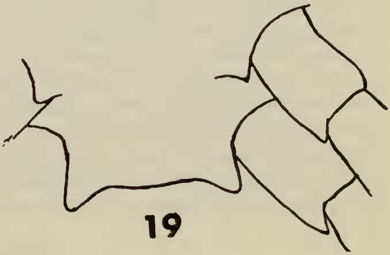

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Plate III

Rhysodesmus sandersi, n. sp.

Figs. 19-20

Distinguished from *R. potosiansis* Chamberlin 1942, which occurs in the same area, by the wider seminal branch and the curved accessory branch of the male gonopods and by the yellow transverse bands on the dorsum. The spined sternites and coxae are especially distinctive, but it is not known whether *potosiansis* has these spines or not.

Male holotype.—In preservative the color is almost gone, but there are indications that the keels, wide bands across the posterior margin of the metatergites, border all around the collum, and a narrow longitudinal band on the collum were yellow. Keels and collum the usual shape and the dorsum arched as usual. Surface of metatergites smooth and shining, but under magnification it is seen to be finely coriaceous. Metasternites, beginning with the eighth segment, weakly spined ajacent to the first legs of each segment and strongly adjacent to the second legs; figure 19 shows the appearance of the spines on the thirteenth segment, which is rather typical of all segments except the eighteenth, where they are blunt and much closer together. Coxae also spined from the ninth segment on back, but the coxal spines are neither as long nor as sharp as those on the prefemurs.

Gonopods as shown in figure 20; tarsal spine easily broken off.

Length about 48 mm., *width* 11 mm.

Type locality.—Tamazunchale, San Luis Potosi, Mexico; 2 males; July 10, 1937; Ottys Sanders, for whom the species is named, was the collector.

Family EURYURIDAE

Amplinus xelitlus Chamberlin

Amplinus xelitlus Chamberlin, 1943, Bull. U. Utah, Biol. Ser. 8(3):57, fig. 135.

Valles, San Luis Potosi, Mexico; July 15, 1937; Ottys Sanders; 1 female, 11.8 mm. wide. The determination must be regarded as tentative because it was made from a female.

Amplius intermittens, n. sp.

Figs. 21-22

Similar to *A. palicaudatus* (Attems 1901) in size and in the structure of the gonopods; distinguished by the conspicuous intermittent medial line on the metatergites and the tessellated polygonal areas on the entire surface of all metatergites except on the last two segments.

Male holotype.—In alcohol the entire keel areas, a small, square area in the middle of the posterior two rows of the polygonal areas of the metatergites, an hourglass area on the collum, and all of the cauda are white; remainder of dorsum and pleurites dark gray brown; legs, antennae, and venter light brown.

The keels are high, almost horizontal on the middle body segments, and relatively narrow. The prozonites are well exposed. The lateral margins of all keels are thickened, and the pores open laterad on the marginal thickenings, but are partly visible from above. Metazonites, except on the last two segments, completely covered with flat, tessellated, elongated polygonal areas, of which there are four rows on the collum and three on all of the remaining metatergites; on most segments, the areas in the middle row are largest and there are about 14 in the row. On the nineteenth metazonite, the two rows on the posterior half of the metazonite are preceded by one obsolete row and by an unsculptured band. Caudal segment without sculpture; sides of cauda almost parallel; posterior margin of cauda wavy with four low, broad crenulations. Metapleurites coarsely granular, the posterior margin of the fifteenth through seventeenth produced as three or four blunt spines. Anal scale as in figure 21. Metasternites of segments nine through 18 produced into blunt lobes adjacent to the coxae; each metasternite divided into four quadrate areas by two intersecting furrows.

Gonopods typical of the genus, with the apex of the telopodite bifid (Fig. 22).

Length about 50 mm., *width* of metazonites 7 mm., *width* of prozonites 4 mm.

Type locality.—15 miles south of Pichucalco, Chiapas, Mexico; Aug. 19, 1949; W. L. Burger; 1 male.

Polylepiscus burgeri, n. sp.

Fig. 23

This large species, with the caudal angles of the middle body keels strongly elongated and hooked, is related to *P. heterosculptus* (Carl 1902) and *P. actaeon* Pocock 1909. It is distinguished from the former by having the medial part of all metazonites sculptured and the greater part of the keel area yellow, and from the latter by the absence of basal shoulder prominences on the anterior margin of any of the keels. More keels appear to be serrulated than in any other species; the anterior margin of 6 through 17 and the posterior margin of 4 through 16 are serrulate.

Female holotype.—In alcohol the dorsum is brown with almost the entire keel area and the posterior half of the anal tergite yellow; legs and sternites yellowish brown; head and antennae brown.

Prozonites and head smooth and shining. Metazonites, except for nineteenth and raised margins of keels, entirely but not uniformly covered with coriaceous polygonal areas and small, smooth tubercles. Collum covered with shining, flat areas, less coriaceous than the following segments, the number of rows uncertain. Metazonites 2 through 4 with 3 transverse rows of polygonal areas, with 12 to 14 in each row. On the following segments the polygonal areas become increasingly smaller, more coriaceous, and more numerous, appearing indistinctly to be in 4, then in 5, transverse rows, until on the fifteenth and succeeding segments they are almost obsolete except in the marginal row, where they coincide with the tubercles. A few small, smooth tubercles are scattered over the collum and the keels of the anterior metazonites; they become more numerous on posterior segments, with 4 or 5 transverse rows on segments 16 through 18; all are irregularly placed except the caudal row. Tergites 19 and 20 are coriaceous but without tubercles. Metapleurites thickly granular, the posterior margin of the eighth through eighteenth produced as 3 or 4 blunt spines. Keels large, slightly sloping, with the caudal angles on segments 5 through 17 produced as acute hooks (Fig. 23), of which the first two and the last pairs are less sharp than the others. Keels of segments 18 and 19 triangular. Anterior margin of keels on an almost straight line with anterior margin of metazonite; caudal margin of keels 15 through 18 with very slight basal shoulder prominence. Lateral margin of poriferous keels deeply excavated toward pores, except the eighteenth, which is only slightly excavated, and the nineteenth none at all; lateral margin of nonporiferous segments not excavated. Cauda wide, the sides parallel, the posterior margin straight, and the corners rounded. Anal scale hemispherical, with the margin between the setae convex and the tubercles almost obsolete. Metasternites divided into four approximately equal areas by two intersecting furrows.

Length about 85 mm., *width* 13 mm.

Type locality.—17 miles south of Simojoval, Chiapas, Mexico; Aug. 18, 1949; 1 female; W. L. Burger, for whom the species is named, was the collector.

A female from 15 miles south of Pichucalco, Chiapas, corresponds with the holotype except that the width is 10.5 mm., the length about 70 mm., and the posterior margin of the cauda is slightly convex.

Family RHACHIDESMIDAE

Strongylodesmus geddesi Pocock

Strongylodesmus geddesi Pocock, 1909, Biol. Centr.-Amer., Diplop. p. 173, pl. 13, fig. 5.

Strongylodesmus geddesi Pocock. Attems, 1940, Tierreich, Polydesmoidea III, p. 479, fig. 678.

Valles, San Luis Potosi; July 15, 1937; Ottys Sanders; 1 male, 6.4 mm. wide. Tamazunchale, San Luis Potosi, Mexico; July 10, 1937; Ottys Sanders; 1 male, 6.3 mm. wide; 1 female 7.4 mm. wide. Except for the larger size, these specimens correspond with Pocock's description.

Explanation of Figures

Plate I

Orthoporus unicus, n. sp., male holotype. Fig. 1, left keel of collum. Fig. 2, left gonopod, anterior view; *a*, anterior lamina; *p*, posterior lamina; *t*, telopodite. Fig. 3, end of telopodite of left gonopod; *c*, carolla; *s*, seminal spine.

Chamberlineptus morechalensis, n. gen., n. sp. Fig. 4, right keels of first two segments, male holotype. Fig. 5, right gonopod, anterior view, male holotype; *k*, knee process. Fig. 6, right keel of first segment, female paratype.

Venezueneptus liber, n. gen., n. sp., male holotype. Fig. 7, right keel of first segment.

Plate II

Venezueneptus liber, n. gen., n. sp. Fig. 8, right gonopod, anterior view; *ta*, tarsus.

Rhinocricus dispar, n. sp., male holotype. Fig. 9, scobina from twenty-fifth segment. Fig. 10, anterior view of gonopods, right posterior one removed. Fig. 11, end of right posterior gonopod.

Oxobolus magnificus, n. sp., male holotype. Fig. 12, right side of first three segments. Fig. 13, left side of thirty-sixth segment. Fig. 14, right posterior gonopod, anterior view. Fig. 15, same, posterior view.

Oxobolus tardus, n. sp., male holotype. Fig. 16, left side of first three segments.

Plate III

Oxobolus tardus, n. sp. Fig. 17, left posterior gonopod, anterior view. Fig. 18, same, posterior view.

Rhysodesmus sandersi, n. sp., male holotype. Fig. 19, metasternite and coxae of thirteenth segment. Fig. 20, telopodite of left gonopod, lateral view.

Amplinus intermittens, n. sp., male holotype. Fig. 21, anal scale. Fig. 22, telopodite of left gonopod, lateral view.

Polylepiscus burgeri, n. sp., female holotype. Fig. 23, right keel of sixteenth segment.